



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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SERIAL NO.: 10/089,896

ART UNIT: 1764

FILED: July 16, 2002

EXAMINER: Johnson, J.D.

TITLE: PROCESS FOR MODIFYING COAL SO AS TO REDUCE SULFUR EMISSIONS

Supplemental Amendment A: CLAIM AMENDMENTS

Please cancel Claims 1 - 20 and substitute Claims 21 - 39 therefor as follows:

Claims 1 - 20 (canceled).

21. (new) A method of manufacturing a coal product having reduced sulfur emissions comprising:

grinding a raw coal material into a coal powder having a desired particle size;

blending said coal powder with fresh hydrated lime, said fresh hydrated lime being generally unexposed to atmospheric carbon dioxide;

adding water to the blend of coal powder and fresh hydrated lime so as to have a moisture content of between 10 and 30 weight percent of the total weight of the water-added blend;
and

drying the water-added blend so as to have a desired moisture content.

22. (new) The method of Claim 21, said coal powder having a particle size of between 80 and 20 meshes.

23. (new) The method of Claim 22, said coal powder having an average particle size of 40 meshes.

24. (new) The method of Claim 21, said fresh hydrated lime being of a particle form.

25. (new) The method of Claim 24, said particle form of said fresh hydrated lime having an average size of less than 10 percent of said desired particle size of said coal powder.

26. (new) The method of Claim 21, said step of blending comprising:

mixing said fresh hydrated lime with said coal powder in which said fresh hydrated lime is 1 to 15 weight percent of the weight of said coal powder.

27. (new) The method of Claim 21, said step of adding water comprising:

immediately adding water to the blend so as to form an intimate agglomeration of said coal powder and said fresh hydrated lime.

28. (new) The method of Claim 21, said desired moisture content being less than 1 weight percent.

29. (new) The method of Claim 21, said step of drying comprising:

passing the water-added blend to an externally heated oven.

30. (new) The method of Claim 29, said step of drying further comprising:

heating the water-added blend to a temperature of between 300 and 400°F.

31. (new) The method of Claim 30, said step of heating comprising:

heating the water-added blend from waste heat from a power plant.

32. (new) The method of Claim 29, said step of drying further comprising:

preheating the water-added blend prior to passing the water-added blend into said externally heated oven.

33. (new) The method of Claim 21, the raw coal material having a sulfur content of approximately 3% of a total weight of the raw coal material, said fresh hydrated lime being between 5 to 6 weight percent of the total weight of the raw coal material.

34. (new) A method of manufacturing a coal product having reduced sulfur emissions comprising:

grinding coal into a powder having a particle size of between 80 and 20 meshes;

blending the powder with fresh hydrated lime in which the fresh hydrated lime is between 1 to 15 weight percent of the weight of the powder;

adding water to the blend so that the blend has a moisture content of between 10 and 30 weight percent of the total weight of the blend; and

heating the water-added blend to a temperature of between 300 and 400°F

so as to dry the blend to a moisture content of less than 1 weight percent, said steps of grinding and blending and adding water and heating being in a continuous process.

35. (new) The method of Claim 34, said coal having a sulfur content of no less than 3 weight percent of the total weight of the coal.

36. (new) The method of Claim 34, said fresh hydrated lime being between 5 to 6 weight percent of the total weight of the powder.

37. (new) The method of Claim 34, said step of heating comprising:

immediately passing the blend to an externally heated oven.

38. (new) The method of Claim 37, said step of heating further comprising:

preheating the blend prior to passing the blend to said externally heated oven.

39. (new) The method of Claim 34, said step of adding water comprising:

intimately agglomerating the coal and the hydrated lime.